

said relation types and further wherein said relation is between two entities; and

means, operatively coupled to said relation instance record storing means, for detecting a cardinality violation for a first relation type, said means for detecting comprising

means for determining whether said relation instance table means contains a first relation instance record, that defines a first relation of said first relation type between a first entity and a second entity; and

means for determining whether said relation instance table means contains a second relation instance record that defines a second relation of said first relation type between said first entity and a third entity.

B<sup>2</sup>

~~2~~ 16. The data processing system of Claim ~~15~~ wherein each relation instance record defines a relation between a head entity and a tail entity; and

further wherein said first entity is a head entity and said second and third entities are tail entities.

~~3~~ 17. The data processing system of Claim ~~15~~ wherein each relation instance record defines a relation between a head entity and a tail entity; and

further wherein said first entity is a tail entity and said second and third entities are head entities.

~~4~~ 18. A computer method for maintaining cardinality in a relational database, said method comprising:

storing in relation definition table means of said relational database a plurality of relation type records wherein each said relation type record defines a relation

64

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type and includes cardinality data defining cardinality of said relation type;

storing in relation instance table means of said relational database a plurality of relation instance records wherein each said relation instance record defines a relation of a relation type defined by one of said relation type records and further wherein said relation is between two entities; and

detecting a cardinality violation for a first relation type wherein said step of detecting comprises

determining whether said relation instance table means contains a first relation instance record defining a first relation of a first relation type between a first entity and a second entity; and

determining whether said relation instance table means contains a second relation instance record that defines a second relation of said first relation type between said first entity and a third entity.

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5. The method of Claim 4 wherein each relation instance record defines a relation between a head entity and a tail entity; and

further wherein said first entity is a head entity and said second and third entities are tail entities.

6. The method of Claim 4 wherein each relation instance record defines a relation between a head entity and a tail entity; and

further wherein said first entity is a tail entity and said second and third entities are head entities.

#### REMARKS

Newly presented Claims 15-20 correspond to Claims 72-74 and 86-88 of application serial no. 08/083,361, of which this